

WHAT IS CLAIMED IS:

1. A motorized syringe for producing a controlled, slow-delivery of a fluid-like substance, comprising:

a housing having, at one end, an expansible-contractible chamber for receiving a quantity of said fluid-like substance, and an outlet for discharging said substance upon the contraction of said chamber;

and a drive at the opposite end of said housing, said drive including an electrical motor and a plunger driven by said electrical motor for contracting said chamber to discharge said substance via said outlet;

said housing comprising a first section housing said expansible-contractible chamber and a second section housing said drive;

said first housing section being attachable to and detachable from said second housing section to permit disposal of said first housing section, including said expansible-contractible chamber after a one-time use.

2. The motorized syringe according to Claim 1, wherein said first and second housing sections include interconnecting elements at one of their ends for attaching and detaching said housing sections with respect to each other in a quick manner.

3. The motorized syringe according to Claim 2, wherein said interconnecting elements are external threads formed in one of said housing sections receivable in internal threads formed in the other of said housing sections.

4. The motorized syringe according to Claim 1, wherein said first housing section includes a septum for filling said expansible-contractible chamber by injection.

5. The motorized syringe according to Claim 1, wherein said expansible-contractible chamber is defined by a bellows-type container receivable within said first housing section.

6. The motorized syringe according to Claim 1, wherein said outlet includes a flexible catheter tube of a length to deliver the discharged substance to a desired location.

7. The motorized syringe according to Claim 1, wherein said drive includes a threaded sleeve fixed to said plunger, a threaded shaft engageable with said threaded sleeve for axially displacing the sleeve and the plunger fixed thereto upon the rotation of said shaft, and a step-down transmission coupling said threaded shaft to said motor for rotating said shaft, and thereby for axially displacing said sleeve and plunger fixed thereto at a slow rate upon the energization of said motor.

8. The motorized syringe according to Claim 1, wherein said housing is of a bio-compatible material suitable for introduction into a cavity of a patient's body for delivering a medical preparation thereto at a slow rate for a prolonged period of time.

9. The motorized syringe according to Claim 8, wherein said motorized syringe further comprises a motor control circuit included in a separate unit having mounting means for mounting the separate unit externally of the patient's body.

10. The motorized syringe according to Claim 8, wherein said housing is sized and configured for introduction into the vagina of a human female and includes a flexible catheter tube of a length for introduction into the uterus of the female.

11. A motorized syringe for producing a controlled, slow-delivery of a fluid-like substance, comprising:

a housing having, at one end, an expansible-contractible chamber for receiving a quantity of said fluid-like substance, and an outlet for discharging said substance upon the contraction of said chamber;

and a drive at the appropriate end of said housing, said drive including an electrical motor and a plunger driven by said electrical motor for contracting said chamber to discharge said substance via said outlet;

said drive including a threaded sleeve fixed to said plunger, a threaded shaft engageable with said threaded sleeve for axially displacing the sleeve and the plunger fixed thereto upon the rotation of the threaded shaft, and a step-down transmission coupling said threaded shaft to said motor for rotating said shaft, and thereby for axially displacing said sleeve and plunger fixed thereto at a slow rate upon the energization of said motor.

12. The motorized syringe according to Claim 11, wherein said housing comprises:

a first section housing said expansible-contractible chamber, and a second section housing said drive;

said first housing section being attachable to and detachable from said second housing section to permit disposal of said first housing section, including said expansible-contractible chamber, after a one-time use.

13. The motorized syringe according to Claim 12, wherein said first and second housing sections include interconnecting elements at one of their ends for attaching and detaching said housing sections with respect to each other in a quick manner.

14. The motorized syringe according to Claim 12, wherein said first housing section includes a septum for filling said expansible-contractible chamber by injection.

15. The motorized syringe according to Claim 12, wherein said expansible-contractible chamber is defined by a bellows-type container receivable within said first housing section.

16. The motorized syringe according to Claim 11, wherein said outlet includes a flexible catheter tube of a length to deliver the discharged substance to a desired location.

17. The motorized syringe according to Claim 11, wherein said housing is of a bio-compatible material for introduction into a cavity of a patient's body for delivering a medical preparation thereto at a slow rate for a prolonged period of time, and said motorized syringe further comprises a motor control circuit included in a separate unit having mounting means for mounting the separate unit externally of the patient's body.

18. The motorized syringe according to Claim 17, wherein said housing is sized and configured for introduction into the vagina of a human female and includes a flexible catheter tube of a length for introduction into the uterus of the female.

19. A method of intra-uterine insemination, comprising:

introducing into the vagina of a female a motorized syringe according to Claim 1, containing a semen preparation in its expansible-contractible chamber;

introducing into the uterus of the female a flexible catheter tube connected to the outlet of said motorized syringe;

and energizing said motorized syringe to deliver said semen preparation to said uterus at a slow flow rate for a prolonged period of time.

20. A method of intra-uterine insemination, comprising:

introducing into the vagina of a female a motorized syringe according to Claim 11,
containing a semen preparation in its expansible-contractible chamber;

introducing into the uterus of the female a flexible catheter tube connected to the
outlet of said motorized syringe;

and energizing said motorized syringe to deliver said semen preparation to said
uterus at a slow flow rate for a prolonged period of time.